

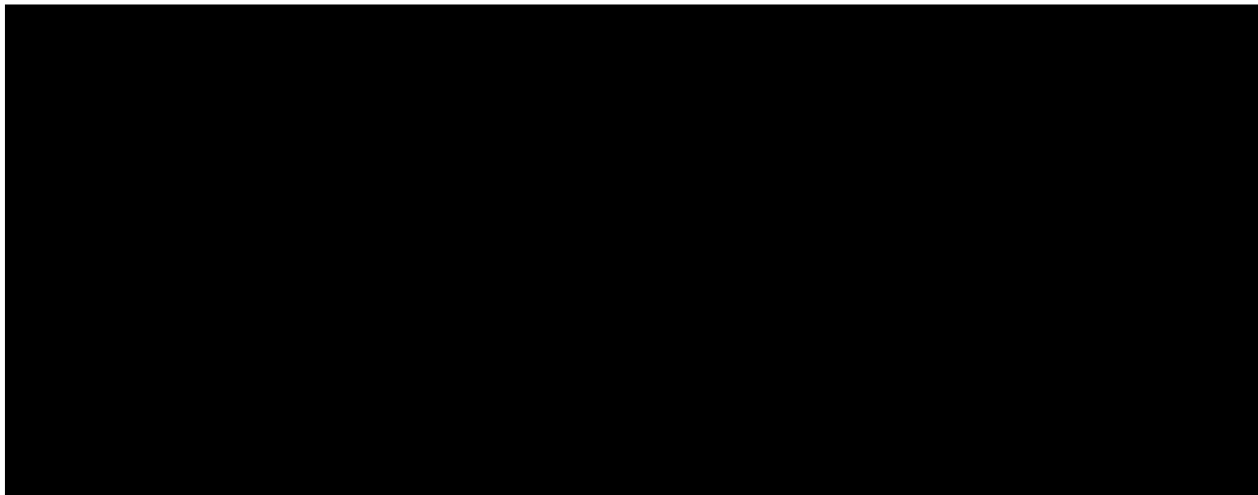
19 July 65

MEMORANDUM FOR: Special Assistant to the President
for National Security Affairs

SUBJECT : Scientific and Technical Efforts in
the Foreign Intelligence Field

REFERENCE : Your memo to DCI, dtd 9 June 65,
Same Subject

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3. The Special [REDACTED] Panel arrangement was recently given a complete evaluation in the light of our needs for a more formally constituted group. As a result, I have recently approved a recommendation from Dr. Wheelon for the formation of a Strategic Weapons Intelligence Panel. [REDACTED] will serve as Chairman of this Panel which will be an advisory body to the DCI. It will review and make recommendations regarding judgments of the Intelligence Community on available data; investigate and make recommendations as to trends in foreign strategic weapons developments; evaluate and recommend improvements in analytical techniques; and evaluate and make recommendations for improvements in US collection programs.

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requirement for smaller and smaller equipment in covert intelligence operations arises, the designer turns to the use of microelectric circuitry. Because of the increased power drain, the power source must be increased in size. Work on the development of micro-power microelectronic circuitry to greatly reduce the power drain on these systems indicates that efficiencies can be improved by several orders of magnitude. With this in mind, ambient power sources (radio broadcast station RF fields, solar energy, thermal level changes, etc.) offer great promise. Efforts are now under way to improve the efficiency for power in the area of HF linear circuits. Other work to expand the field and increase the life of the units will continue during the coming year.

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We have successfully developed improved mercury batteries for clandestine agent operations. The batteries were made

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efficiency which enabled a reduction in size and weight with increased efficiency in the power source. [REDACTED] also developed by OKD which provides a noiseless power source. This will be made available to the Army Materiel Command next month for communications purposes in the field.

e. Life Sciences - Progress in this area has resulted in techniques which have been accepted and placed in regular use while other programs are continuing in evaluation and refinement. Work on microanalysis of blood

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10. Office of Scientific Intelligence - During 1965, the OSI continued to be the principal intelligence producing element of DD/S&T. However, it reoriented analytical emphasis to parallel changing world-wide scientific and technical developments. The Chinese Communist's progress in nuclear weapon developments and associated delivery systems caused the major realignment of effort. Research in Soviet S&T manpower and facilities resources has been de-emphasized and the emphasis shifted to Soviet military research (organization and planning).

OSI has also altered its method of intelligence reporting to meet the expanding need for daily, weekly and monthly reporting on foreign S&T and military R&D activities. Greater emphasis is being placed on current reporting but at the same time the volume of depth-study publications has been maintained with increased use of external contractors. OSI is participating more frequently in the production of National Intelligence Estimates as military R&D-type estimates proliferate at a rate generally paralleling the proliferation of advanced weapons.

Support from external analysis contractor facilities provided significant contributions in the priority fields of Soviet nuclear developments, and ballistic missile and space systems, as well as the ABM, air defense, and anti-satellite systems. External analysis and evaluation in the nuclear energy field, for example, provided significant inputs on Soviet nuclear reactor systems to the latest NIE on the Soviet nuclear energy program. The use of external analysis capabilities under contract greatly increased our knowledge of the Soviet space program and enhanced OSI's estimate of future Soviet space activities.

11. Foreign Missile and Space Analysis Center - FMSAC has developed a highly respected position in the field of analysis and reporting on foreign missile and space activity. Since November 1964, daily reports have been transmitted by electrical means to analytical components of the US Intelligence Communities. Special reports on significant

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individual space and missile events have gone to these consumers since February 1965. On several occasions, FMSAC has been able to alert the US community to impending Soviet space operations -- such as Voskhod II -- and predict the nature and time of the event.

External contractual assistance has been invaluable in providing FMSAC with the proper analytical background to report promptly and accurately. External contractors also assisted in trajectory analysis involving such complex operations as interplanetary or lunar probes, other unusual space ventures and for electronic signal analysis.

During the past year a FMSAC contractor prepared and disseminated to responsible recipients a compendium of all electronic signals associated with Soviet missile and space activities since the inception of these programs. This document is unique within the US Intelligence Community.

25X1A FMSAC has almost attained the planned growth to indicated last year. It has achieved a capability for deriving routine missile and space vehicle trajectories and requires no further external assistance in these matters.

12. Office of Computer Services - OCS concentrated during the past year on the development of in-house scientific computing capabilities. The principal areas where competence has been achieved are in trajectory and orbital computations, telemetry processing, simulation and ELINT processing.

25X1A [redacted] formerly Head of the Computation Sciences
25X1A [redacted] joined OCS in July 1964 and aided greatly in developing scientific computing for DD/S&T. A few months ago, OCS obtained the services of another specialist from industry to head up its new scientific computing division. The acquisition of an advanced analytical-digital device being developed by [redacted] for OCS will greatly facilitate responding to the scientific requirements placed on it by various components of the Directorate.

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13. I am pleased to submit this report closing out fiscal year 1965 which I believe has been one of continued progress in the S&T field. During my brief tenure here, I have observed the professional environment in which the Directorate for Science and Technology operates and have been impressed with the rapport which exists between our Agency's professionals and the outstanding scientists and engineers who serve as advisors and consultants. There is evidence here that the organization and programs are subject to continuous and critical appraisal to obtain maximum efficiency and to meet the needs of the Intelligence Community.

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**W. F. Raborn
Director**

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S/DDS&T [redacted] 4248:12 July 65

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